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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/035,346	12/28/2001	John de Q. Walker	01-152	1045
24319	7590	06/10/2004	EXAMINER	
LSI LOGIC CORPORATION 1621 BARBER LANE MS: D-106 LEGAL MILPITAS, CA 95035			NADAV, ORI	
			ART UNIT	PAPER NUMBER
			2811	

DATE MAILED: 06/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Advisory Action

Application No.

10/035,346

Applicant(s)

WALKER ET AL.

Examiner

ori nadav

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--The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

THE REPLY FILED 21 May 2004 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

PERIOD FOR REPLY [check either a) or b)]

- a) ☐ The period for reply expires _____ months from the mailing date of the final rejection.
- b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.
- ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☐ A Notice of Appeal was filed on _____. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.
2. ☐ The proposed amendment(s) will not be entered because:
- (a) ☐ they raise new issues that would require further consideration and/or search (see NOTE below);
- (b) ☐ they raise the issue of new matter (see Note below);
- (c) ☐ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
- (d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____

3. ☐ Applicant's reply has overcome the following rejection(s): _____.
4. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
5. ☒ The a) ☐ affidavit, b) ☐ exhibit, or c) ☒ request for reconsideration has been considered but does NOT place the application in condition for allowance because: See attachment.
6. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.
7. ☐ For purposes of Appeal, the proposed amendment(s) a) ☐ will not be entered or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: _____

Claim(s) objected to: _____

Claim(s) rejected: 1, 3 and 5-7.Claim(s) withdrawn from consideration: 11-17.

8. ☐ The drawing correction filed on _____ is a) ☐ approved or b) ☐ disapproved by the Examiner.
9. ☐ Note the attached Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
10. ☐ Other: _____

ORI NADAV
PATENT EXAMINER

DETAILED ACTION***Response to Arguments***

Applicant argues that the doped regions in Kasahara and Takemura do not have dopant profiles that continuously increase with increasing depth of the doped region, because the dopant profiles in Kasahara and in Takemura increase for a short depth and then decrease with depth.

Although the doped regions in Kasahara and Takemura increase for a short depth and then decrease with depth, the doped regions in Kasahara and Takemura do have dopant profiles that continuously increase with increasing depth of the doped region, starting from the diode junction and continuing to a peak concentration region. The broad recitation of the claim does not require the dopant profiles to increase throughout the entire doped region.

Applicant argues that the capacitance/voltage response characteristics of the Kasahara and Takemura, shown in figures 4 and 1(B) respectively, are a result of the dopant profiles of the entire doped region adjacent to the PN junctions which increase and decrease in concentration with depth from the PN junction, not from a continuously increasing nonuniform dopant concentration profile, as required by amended claim 1

The part of the doped region wherein the dopant concentration profile continuously increases also causes the varactor to have an approximately linear capacitance/voltage response. Therefore, Kasahara and Takemura teach that the

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continuously increasing nonuniform dopant concentration profile causes the varactor to have an approximately linear capacitance/voltage response, as claimed.

Applicant argues that Takemura does not teach the claimed limitations, because Takemura discloses in figure 4(A) and in the related text, a dopant concentration profile that increases in steps with increased depth.

The claimed invention was rejected with respect to the embodiment of figure 1A of Takemura and not with respect to the embodiment of figure 4(A).

Papers related to this application may be submitted to Technology center (TC) 2800 by facsimile transmission. Papers should be faxed to TC 2800 via the TC 2800 Fax center located in Crystal Plaza 4, room 4-C23. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The Group 2811 Fax Center number is (703) 308-7722 and 308-7724. The Group 2811 Fax Center is to be used only for papers related to Group 2811 applications.

Any inquiry concerning this communication or any earlier communication from the Examiner should be directed to *Examiner Nadav* whose telephone number is **(571) 272-1660**. The Examiner is in the Office generally between the hours of 7 AM to 4 PM

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(Eastern Standard Time) Monday through Friday. Any inquiry of a general nature or relating to the status of this application should be directed to the **Technology Center Receptionists** whose telephone number is **308-0956**.

A handwritten signature in black ink, appearing to read 'Ori Nadav', is positioned in the center-right of the page.

O.N.
6/4/04

ORI NADAV
PATENT EXAMINER
TECHNOLOGY CENTER 2800